



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,284	03/24/2004	Shinya Nagano	3273-0187PUS1	3934
2292	7590	01/13/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			DENTZ, BERNARD I	
			ART UNIT	PAPER NUMBER
			1625	

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/807,284

Applicant(s)

N3AGANO ET AL.

Examiner

Bernard Dentz

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3-24-04, 2-22-05</u> . | 6) <input type="checkbox"/> Other: ____.  |

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ishii et al, WO 9840337 published 09-17-1998. The equivalent US Patent 6,392,104 issued 5-21-2002 will be used in the explanation of the rejection since the WO document is in Japanese.

A process for making hydroxyl substituted adamantanes is disclosed. Various unsubstituted or bridgehead substituted adamantanes are oxidized in the presence of an imide compound as catalyst. Various carboxy substituted adamantanes as well as the corresponding protected carboxy adamantanes are disclosed as starting materials. The synthesis of these key carboxy substituted adamantanes by carboxylation of adamantane or carboxy substituted adamantane using the same imide catalyst is also disclosed. See col. 30, line 20 to col. 33, line 15 for the general means of obtaining these compounds. The section begins with: "An adamantane derivative having a carboxyl group (containing a carboxyl group protected by a protective group) can be obtained in accordance with, for example, the following reaction step scheme (III)." See particularly the production of compound (IIIc) along with col. 32, lines 51-60, particularly lines 54-58 which state that the carboxyl group of compound (IIIa) and the compound (IIIc) of the

Art Unit: 1625

reaction component or the reaction product may be protected by the above protecting group before or after the oxidation or the carboxylation reaction or during each reaction.

Protective groups for carboxyl groups are recited at col. 6, lines 41 to 65 and include esters (including silyl esters) and amides. More specifically the production of 1,3,5-tris(methoxycarbonyl)-7-adamantanol is disclosed at col. 10, lines 50 and 51. The instant compounds containing 1 or more carbonyl halide groups are deemed to be anticipated by col. 27, lines 1 to 17 which begins: "When a carboxyl group is protected by an alkoxy group (when an ester group is formed), the carboxyl group may be converted into the corresponding ester group by reacting a carboxyl group-containing compound or a derivative thereof (e.g. an acid halide such as an acid chloride) with an alcohol." The production of the instant amides is anticipated at col. 27, line 18 to col. 28, line 44.

Col. 31, line 25 recites "Oxidation of 1,3,5-tricarboxyadamantane with oxygen provides 1,3,4-tricarboxy-7-adamantanol."

Example 46 specifically discloses this synthesis of 1,3,5-tricarboxyadamantane from adamantine, followed by its oxidation using the imide catalyst and oxygen to 1,3,5-tricarboxy-7-adamantanol.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Dentz whose telephone number is 571-272-0683. The examiner can normally be reached on Mon-Fri from 8 to 4:30.

Art Unit: 1625

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang, can be reached on 571 272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dentz

1-9-2006

*B Dentz*  
*B Dentz*  
*Primary Examiner*  
*AU 1625*